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REMARKS

Reconsideration of the application, and allowance of the pending claims are respectfully requested in view of the remarks below. Claims 1-22 are pending in this case.

Withdrawal of Claims 14-17

Initially, Applicants wish to thank the Examiner for his withdrawal of the restriction requirement regarding claims 14-17 and consideration of the same along with the other claims in this application.

Information Disclosure Citation

As mentioned in applicants' last response, an Information Disclosure Citation listing three references along with copies thereof were submitted concurrently with the filing of the application. In addition, a Supplemental Information Disclosure Statement and Citation listing twenty-two references along with copies thereof were submitted on January 4, 2002.

As this is a second request after filing that the above-identified references be considered or reasons be supplied as to why any of the references cannot be considered, it is applicants' understanding that all of these references have indeed been considered in connection with the above-identified application. If this understanding is not correct, applicants kindly request return of initialed copies of the citations listing those references considered.

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35 U.S.C. §102 Rejection

In the Office Action, claims 1-22 were rejected under 35 U.S.C. §102(b) as allegedly anticipated by Wilson et al. (U.S. Patent No. 5,400,246). Applicants respectfully, but most strenuously, traverse this rejection for the following reasons.

In the Office Action, applicants' claimed subject matter was allegedly met by Wilson et al. which includes:

- 1) the claimed processor for monitoring the pump is met by the main system components of figure 1, including PC (12);
- 2) the claimed modem board is met by the modem (20); and
- 3) the claimed transducer being operable to allow operation of the grinder pump to pump fluid from a tank so that the level goes below the bottom, and wherein the level of the fluid is normally maintained above the bottom and periodically pumped from the tank is met since the operator of the system can control the tank level as desired (see: column 20, lines 45-53).

Upon closer review of Wilson et al., Wilson et al. is generally directed to the field of computer systems for the monitoring and controlling of peripheral devices for the purpose of data acquisition and for remote control. Wilson is also directed to orientating the user with respect to the physical location and function of the equipment being controlled by the system.

The various embodiments of the systems disclosed in Wilson et al. include a fire and security alarm system in a building having a fire alarm and a security alarm (e.g., FIG. 2), facility system such as a pump control building (e.g., FIG. 4), and a home automation system (e.g., FIG. 8).

While the facility system disclosed in Wilson et al. includes controlling a pump control building having a plurality of pump stations located at in the building, Wilson et al. further discloses that the particular facility as that of "Acme Corporation." Thus, the

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pump stations and associated tanks would likely be for industrial or commercial manufacturing or processing, and not treating of sewage which are typically operated by municipal or public entities.

With regard to the various embodiments of the systems disclosed in Wilson et al., none of the systems disclose, teach or suggest sewage systems, or more particularly, sewer systems employing grinder pumps (devices having both a grinding mechanism and a pump). In addition, none of the systems disclosed in Wilson et al. involve monitoring the system or components thereof for determining repair or maintenance warnings.

Independent Claim 1

A first aspect of applicants' invention is directed to systems and methods for remotely monitoring for repair a plurality of grinder pump stations. In this aspect of applicants' invention, maintenance warnings are transmitted from the grinder pump stations to a central computing unit, or data regarding the operation of the grinder pump stations is transmitted to the central computing unit and used in determining maintenance warnings. For example, by comparing changes in the operating parameters over time and/or comparing the operating parameter against predetermined criteria, an alarm condition requiring repair and/or warning of potential service requirements can be addressed in advance of failure. This technique provides faster response time for repair and reduces maintenance costs by allowing repair prior to the occurrence of increased or major problems or a breakdown of a grinder pump system or a component thereof.

Independent claim 1 reads as follows:

1. A method for remotely monitoring for repair a plurality of grinder pump stations at a plurality of different first locations, the method comprising:

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obtaining data regarding the plurality of grinder pump stations at the first locations;

transferring the data from the first locations via a communications network to a central computing unit at a second location different from the first locations; and

at least one of a) wherein the data comprises data regarding maintenance warnings for the plurality of grinder pump stations, and b) wherein the data comprises data regarding the operation of the plurality of grinder pump stations and further comprising determining, at the central computing unit maintenance warnings for the plurality of grinder pump stations.

When asserting a section 102 rejection, it is well established that there is no anticipation unless (1) all the same elements are (2) found in exactly the same situation and (3) are united in the same way to (4) perform the identical function.

Wilson et al. fails to disclose, teach or suggest a method for remotely monitoring equipment for repair. Wilson et al. also fails to disclose, teach or suggest the equipment being a plurality of grinder pumps, and where the equipment is located at different first locations. In addition, Wilson et al. fails to disclose, teach or suggest transferring data from the equipment to a central computing unit in which the data comprises maintenance warnings or processing the data to determine maintenance warnings.

More particularly, Wilson et al. fails to disclose a "method for remotely monitoring for repair a plurality of grinder pump stations at a plurality of different first locations" which includes obtaining data and transferring the data to a central computing unit, and "wherein the data comprises data regarding maintenance warnings for the plurality of grinder pump stations" or "wherein the data comprises data regarding the operation of the plurality of grinder pump stations and further comprising determining, at the central

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computing unit maintenance warnings for the plurality of grinder pump stations" as recited in claim 1.

Since the systems and methods disclosed in Wilson et al. do not disclose the same elements, or perform an identical function as in this aspect of applicants' invention, Wilson et al. would not anticipate applicants' invention as recited in independent claim 1. Dependent claims 2-6 and 22 are believed allowable for the same reasons as claim 1 from which they directly or ultimately depend, as well as for their own additional characterizations (e.g., override feature in claim 4, comparing data to a predetermined criteria to determine maintenance warnings in claim 5, comparing data over time to a predetermined criteria to determine maintenance warnings in claim 6, and repairing grinder pumps in response to maintenance warnings in claim 22).

Independent Claim 7

Another aspect of applicants' invention is directed to an alarm panel for a grinder pump station which may be connected to a homeowner's existing telephone line and which alarm panel includes an override or "barge-in" capability. For example, if the telephone line is being used by the alarm panel and the homeowner picks up the telephone receiver, transmission from the alarm panel to a remote location is stopped and the homeowner may use the telephone. The transmission from the alarm panel to the central computing unit may then be repeated at a later time when the homeowner is not using the telephone. Also, if the homeowner is using the telephone, the alarm panel will not interrupt the call during periodic downloads to the service center, but instead wait for an open line. The transmission of information from the alarm panel to the service center allows the homeowner to place a telephone call in an emergency, and also eliminates the need for the homeowner to provide a second telephone line to implement the remote monitoring capabilities of the system.

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Independent claim 7 reads as follows:

7. An alarm panel for a grinder pump station, said alarm panel comprising:

a processor for monitoring the grinder pump; and
a modem board connectable to said processor, at least one of said processor and said modem board comprising an override to allow use of a telephone by a homeowner over use of the telephone line by said modem board during transmission of data from the processor to a central computing unit.

Wilson et al. fails to disclose, teach or suggest an alarm panel for a grinder pump station. In addition, Wilson et al. fails to disclose, teach or suggest an alarm panel for a grinder pump station having "an override to allow use of a telephone by a homeowner over use of the telephone line by said modem board during transmission of data from the processor to a central computing unit" as recited in claim 7, and claims 8 and 9 which depend from claim 7. Claims 8 and 9 (regarding the recharging of a sensing bell) are further patentable for the reasons noted below in connection with claim 14.

Since the systems and methods disclosed in Wilson et al. do not disclose the same elements, or perform an identical function as in this aspect of applicants' invention, Wilson et al. would not anticipate applicants' invention as recited in independent claim 7 or claims 8-9 depending therefrom.

Independent Claim 10

Still another aspect of applicants' invention is directed to a modular alarm panel for a grinder pump station. The modular alarm panel may be customized based on the user's requirements, e.g., configuring the system to the customer's needs by providing

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a less expensive stand alone system only having some modular components, to a more expensive system, for example, including several or all of the modular components.

Independent claim 10 reads as follows:

10. A modular alarm panel for a grinder pump station, the modular alarm panel comprising:
 - a processor for monitoring the grinder pump; and
 - wherein said processor is connectable to a power loss high level alarm module, a modem board, a pressure transducer, and a generator receptacle.

Wilson et al. fails to disclose, teach or suggest an alarm panel for a grinder pump station. In addition, Wilson et al. fails to disclose, teach or suggest a modular alarm panel which includes a processor connectable to "a power loss high level alarm module, a modem board, a pressure transducer, and a generator receptacle" as recited in claim 10, and claims 11-13 which depend from claim 10. In addition, claim 4 (regarding an override feature) is also patentable for the reasons noted above in connection with claim 7. Claims 12 and 13 (regarding recharging a sensing bell) are also patentable for the reasons noted below in connection with claim 14.

Since the systems and methods disclosed in Wilson et al. do not disclose the same elements, or perform an identical function as in this aspect of applicants' invention, Wilson et al. would not anticipate applicants' invention as recited in independent claim 10 or claims 11-13 depending therefrom.

Independent Claim 14

Applicants' invention, in another aspect, is directed to a technique for recharging a sensing tube for use in measuring a level of a fluid in a receptacle. For example, a processor or a separate pressure transducer printed circuit board connectable to a

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processor may allow the pump to remain on so that the bottom of the sensing tube is exposed to atmospheric pressure. This may be preformed, e.g., every 128 cycles, to allow recharging the air column inside the sensing tubes. By recharging the air column in the sensing tubes, air temperature or thermal factors, which can affect the accuracy of the reading of the level of the fluid in the tank, may be reduced or factored out.

Independent Claim 14 reads as follows:

14. A method for recharging a sensing tube for use in measuring a level of a fluid in a receptacle, the method comprising:

permitting the level of the fluid in the receptacle to go below the bottom of the sensing tube.

Wilson et al. does not disclose, teach or suggest sensing tubes. Moreover, Wilson et al (particularly at column 20, lines 45-53) also fails to disclose, teach or suggest such a method for recharging a sensing tube for use in measuring a level of a fluid in a receptacle in which the method includes "permitting the level of the fluid in the receptacle to go below the bottom of the sensing tube" as recited in claim 14 (as well as recited in claims 8, 9, 12, and 13). Claims 15-17 are patentable for the same reasons above with reference to claim 14, as well as for their additional features.

Since the systems and methods disclosed in Wilson et al. do not disclose the same elements, or perform an identical function as in this aspect of applicants' invention, Wilson et al. would not anticipate applicants' invention as recited in independent claim 14 or claims 15-17 depending therefrom.

Independent Claim 18

Another aspect of applicants' invention is directed to a communication technique for transmission of data over a high voltage AC line, for example, the measurement of

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the water level in the grinder pump to the alarm panel. Typically, the grinder pump is desirably powered by a high voltage line, e.g., 240 VAC line. Also typically, the high voltage line runs from the alarm panel to the grinder pump. Electrically transmitting the measurement of the water level to the alarm panel over a line, which runs along side the high voltage line, requires that the line be shielded. To avoid the expense of shielding, applicants' communication technique includes using the high voltage line to the grinder pump or a separate high voltage line to transmit, e.g., the measurement of the water level to the alarm panel.

Independent claim 18 reads as follows:

18. A method for transmitting information over a high voltage alternating current line, the method comprising:
 - receiving data at a first location;
 - modulating the voltage of an alternating current line at the first location to generate a series of pulses corresponding to the information;
 - detecting the series of pulses in the high voltage line at a second location different from the first location; and
 - determining the data at a second location based on the series of pulses.

Wilson et al. fails to disclose, teach or suggest a method for transmitting information over a high voltage alternating current line. In addition, Wilson et al. fails to disclose, teach or suggest a method for transmitting information over a high voltage alternating current line which includes "receiving data at a first location", "modulating the voltage of an alternating current line at the first location to generate a series of pulses corresponding to the information", "detecting the series of pulses in the high voltage line at a second location different from the first location", and "determining the data at a second location based on the series of pulses" as recited in claim 18 (and claims 19-21 depending therefrom).

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Since the systems and methods disclosed in Wilson et al. do not disclose the same elements, or perform an identical function as in this aspect of applicants' invention, Wilson et al. would not anticipate applicants' invention as recited in independent claim 18 or claims 19-21 depending therefrom.

CONCLUSION

It is believed that the application is in condition for allowance, and such action is respectfully requested.

If a telephone conference would be of assistance in advancing prosecution of the subject application, applicants' undersigned attorney invites the Examiner to telephone him at the number provided.

Respectfully submitted,



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Dated: June 5, 2003

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